THAT WHICH IS CLAIMED:

1. A power converter apparatus, comprising:

first and second DC voltage busses;

a polyphase DC to AC converter circuit coupled to the first and second DC voltage busses and operative to generate a polyphase AC output; and

a control circuit operatively associated with the polyphase DC to AC converter circuit and configured to shift a DC voltage range of the first and second DC voltage busses with respect to a reference voltage responsive to a relationship among phase components associated with the polyphase AC output.

2. An apparatus according to Claim 1, wherein the reference voltage comprises a neutral voltage for the polyphase AC output.

3. An apparatus according to Claim 2, wherein the AC output includes a neutral terminal configured to be connected to a load connected to the AC output, and wherein the neutral voltage comprises a voltage at the neutral terminal.

4. An apparatus according to Claim 2, wherein the neutral voltage comprises a synthetic neutral voltage.

5. An apparatus according to Claim 1, wherein the control circuit is configured to shift the DC voltage range of the first and second DC voltage busses with respect to the reference voltage responsive to phase voltages of the polyphase AC output.

6. An apparatus according to Claim 1, wherein the control circuit is configured to shift the DC voltage range of the first and second DC voltage busses with respect to the reference voltage responsive to phase modulation commands from which the polyphase AC output is generated.

7. An apparatus according to Claim 6, wherein the phase modulation commands comprise respective phase regulator outputs.

8. An apparatus according to Claim 1, wherein the polyphase DC to AC converter circuit comprises respective half-bridge circuits that drive respective phases of the polyphase AC output, and wherein the control circuit is operative to provide discontinuous modulation of at least one of the half-bridge circuits.

9. An apparatus according to Claim 1, further comprising an AC to DC converter circuit operative to generate a DC voltage between the first and second DC voltage busses from an AC input.

10. An apparatus according to Claim 9, wherein the control circuit is operative to shift the DC voltage range between the first and second DC voltage busses responsive to a relationship among phase components associated with the AC input and the polyphase AC output.

11. An apparatus according to Claim 10, wherein the control circuit is further operative to regulate a DC voltage between the first and second DC voltage busses responsive to a relationship among the phase components associated with the AC input and the polyphase AC output.

12. An apparatus according to Claim 9, wherein the control circuit is operative to determine a maximum phase voltage and a minimum among the phase components associated with the AC input and/or the AC output, to regulate the DC voltage between the first and second DC voltage busses based on a difference between the determined maximum and minimum phase components, and to shift the DC voltage range between the first and second DC voltage busses with respect to the reference voltage based on relative magnitudes of the determined maximum and minimum phase components.

13. An apparatus according to Claim 12, wherein the control circuit is operative to regulate the DC voltage between the first and second DC voltage busses such that the magnitude of the voltage between the first and second DC voltage busses is at least as great as the magnitude of the difference between the determined maximum and minimum phase components.

14. An apparatus according to Claim 12, wherein the control circuit is operative to maintain relative magnitudes of voltages on the first and second DC voltage busses with respect to the neutral voltage in proportion to relative magnitudes of the maximum and minimum phase components.

15. An apparatus according to Claim 12, wherein the control circuit is operative to conform voltages of the first and second DC voltage busses to an envelope defined by extrema of phase voltages at the AC input and/or the AC output.

16. An apparatus according to Claim 1:

wherein the DC to AC converter circuit comprises an inverter circuit operative to selectively couple the AC output to the first and second DC voltage busses responsive to an inverter control signal; and

wherein the control circuit comprises a control circuit operative to generate the inverter control signal responsive to the relationship among the phase components associated with the polyphase AC output.

17. An apparatus according to Claim 16:

wherein the inverter circuit selectively couples the first and second DC voltage busses to the AC output responsive to a pulse width modulated control signal;

wherein the control circuit comprises:

a PWM count generator that generates a PWM count responsive to a voltage reference signal;

a zero sequence offset generator that generates a zero sequence offset responsive to the relationship among the phase components associated with the polyphase AC output; and

a PWM signal generator that offsets the PWM count according to the zero sequence offset and generates the pulse width modulated control signal from the offset PWM count.

18. An apparatus according to Claim 17:

wherein the inverter circuit comprises respective half-bridge circuits operative to selectively couple the first and second DC voltages busses to respective phases of the AC output responsive to respective pulse width modulated control signals;

wherein the PWM count generator generates respective PWM counts for respective ones of the phases at the AC output responsive to the voltage reference signal; and

wherein the PWM signal generator offsets the PWM counts according to the zero sequence offset and generates the respective pulse width modulated control signals from the respective offset PWM counts.

19. An apparatus according to Claim 17, wherein the pulse width modulated control signals comprise first pulse width modulated control signals, wherein the control circuit comprises a neutral bridge circuit operative to selectively couple the first and second DC voltage busses to and from the neutral responsive to a second pulse width modulated control signal, and wherein the PWM signal generator generates the second pulse width modulated control signal from the offset PWM counts.

20. An uninterruptible power supply (UPS) comprising:

first and second DC voltage busses;

a DC source operative to supply power to the first and second DC voltage busses;

a polyphase DC to AC converter circuit coupled to the first and second DC voltage busses and operative to generate a polyphase AC output; and

a control circuit operatively associated with the polyphase DC to AC converter circuit and configured to shift a DC voltage range of the first and second DC voltage busses with respect to a reference voltage responsive to a relationship among phase components associated with the polyphase AC output.

21. A UPS according to Claim 20, wherein the reference voltage comprises a neutral voltage for the polyphase AC output.

22. A UPS according to Claim 21, wherein the AC output includes a neutral terminal configured to be connected to a load connected to the AC output, and wherein the neutral voltage comprises a voltage at the neutral terminal.

23. A UPS according to Claim 21, wherein the neutral voltage comprises a synthetic neutral voltage.

24. A UPS according to Claim 20, wherein the control circuit is configured to shift the DC voltage range of the first and second DC voltage busses with respect to the reference voltage responsive to phase voltages of the polyphase AC output and

25. A UPS according to Claim 20, wherein the phase components comprise phase modulation commands from which the polyphase AC output is generated.

26. A UPS according to Claim 25, wherein the phase modulation commands comprise respective phase regulator outputs.

27. A UPS according to Claim 20, wherein the polyphase DC to AC converter circuit comprises respective half-bridge circuits that drive respective phases of the polyphase AC output, and wherein the control circuit is operative to provide discontinuous modulation of at least one of the half-bridge circuits.

28. A UPS according to Claim 20, wherein the DC source comprises:

an AC to DC converter circuit operative to serve as a primary power source that generates a DC voltage between the first and second DC voltage busses from an AC input; and

a secondary DC source operative to generate a DC voltage between the first and second DC voltage busses from an AC input.

29. A method of operating a polyphase power converter that is operative to generate a polyphase AC output from a DC voltage on a DC link including first and second DC voltage busses, the method comprising:

shifting a voltage range between the first and second DC voltage busses with respect to a reference voltage for the polyphase AC output responsive to a relationship among phase components associated with the polyphase AC output.

30. A method according to Claim 29, wherein the reference voltage comprises a neutral voltage.

31. A method according to Claim 30, wherein the neutral voltage is one of an actual voltage of a neutral of a load receiving the polyphase AC output or a synthetic neutral for a load receiving the polyphase AC output.

32. A method according to Claim 29, wherein shifting a voltage range comprises shifting the voltage range between the first and second DC voltage busses with respect to the reference voltage responsive to a relationship among phase voltages of the polyphase AC output.

33. A method according to Claim 29, wherein the phase components comprise phase modulation commands from which the polyphase AC output is generated.

34. A method according to Claim 33, wherein the phase modulation commands comprise respective phase regulator outputs.

35. A method according to Claim 29, wherein shifting a voltage range comprises discontinuously modulating at least one of a plurality of half-bridge circuits of a polyphase DC to AC converter circuit that generates the polyphase AC output.

36. A method according to Claim 29, wherein shifting a voltage range comprises:

determining a maximum phase component and a minimum phase component; and

regulating voltages on the first and second DC voltage busses with respect to the neutral based on relative magnitudes of determined maximum and minimum phase components.

37. A method according to Claim 36, further comprising regulating a voltage difference between the first and second DC voltage busses based on the determined maximum and minimum phase components.

38. A method according to Claim 29, wherein shifting a voltage range comprises generating PWM commands for an output inverter that produces the polyphase AC output responsive to the relationship among the phase components.